

## **Title : Power supply apparatus**

### **Abstract**

Power supply apparatus, especially for the active circuits of a portable radio communication device. The power supply supplies a direct voltage to a load (2) that is connected to a first terminal (3), es comprising a rechargeable battery (4) for connection to a second terminal (5), and a voltage generator (6) for recharging the battery (4) and supplying power to the load (2). The power supply includes first control means (20, 16) for controlledly supplying current from the voltage generator (6) to the first terminal (3) so as to control supply of current from the voltage generator (6) to the load (2) and for preventing reverse flow of current from the first terminal (3) to the voltage generator (6), and second control means (21) for controlledly supplying current between the first (3) and second (5) terminals so as to control supply of current from the voltage generator (6) through the first control means (20, 16) to the battery (4) and from the battery to the load (2). The control means (20, 16; 21) present selectively a high impedance state (23), a low impedance state (26) or a controlled impedance state (29, 32). The first control means (20, 16) comprises a first (21) field-effect transistor connected in series between the voltage generator (6) and the first terminal (3) for controlling supply of current from the voltage generator (6) to the first terminal (3) and a second element (16) connected in series between the voltage generator (6) and the first terminal (3) for preventing reverse flow of current from the first terminal (3) to the voltage generator (6).

Figure 2